

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (M. M. Woolfson, Physics Department, University of York, Heslington, York YO1 5DD, England). As far as practicable books will be reviewed in a country different from that of publication.

Structuurbepaling door röntgendiffractie. By J. M. BIJVOET and E. H. WIEBENGA. Pp.82. Groningen: Wolters-Nordhoff, 1972. Price f12.50.

This lovely little book (Structure determination by X-ray diffraction) has been written for the chemist, whose laboratory experiments are more and more based upon a structural knowledge of many compounds in his special field. The basic principles of an X-ray structure analysis are explained concisely and clearly, without giving technical details. No mathematics is used, except to show that the amplitudes of the electron density Fourier series are measurable quantities. Various methods to obtain the atomic positions from these measurable quantities (structure amplitudes) are described, without giving modern developments of the methods. Some 30 typical examples of structural results are given.

It is *not* intended, however, as an elementary text book: nothing is said about space-group symmetry or structure refinement; reflexion indices *hkl* are introduced only to write down the triple-product sign relationship, no literature references are given, *etc.*

While no English edition is available this book will be an exclusive advantage for the Dutch chemist.

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Cristallochimie des structures tétraédriques. By ERWIN PARTHÉ. Pp.xvi+349. London: Gordon & Breach, 1972. Price £10.25.

This book is an updated and expanded version of an earlier (1964) volume in English entitled *Crystalchemistry of Tetra-*

hedral Structures. In both volumes the author's prime consideration has been to systematize the treatment of the crystallography of a related group of compounds, a set of semi-empirical rules being described which are easily applicable, in this case, to tetrahedral structures. The basis of these rules is to correlate the structural parameters with the concentration of valence electrons. Naturally, therefore, the author has found it necessary to devote a considerable part of the book (105 pages) to a detailed description of valence electron theory and its application to tetrahedral structures. Once the theory has been firmly established in the reader's mind the author proceeds to give a review of the crystal chemistry of normal and defect tetrahedral structures, together with a chapter on the effects of high pressure on these structures.

The final chapter is devoted to a comprehensive listing of crystallographic data; namely cell parameters, space groups, and atomic positions, followed by a bibliography covering the period 1913 to 1968 in detail with a few references to the period 1969-1970.

The book may be used in two ways, first as a specialist text-book giving information of a basic nature in valence electron theory and crystal chemistry, secondly as a reference book on the crystallographic data for a large number of compounds. The adequate index ensures that the data for a particular compound can be found rapidly without the need to understand the system of classification used throughout the book.

In conclusion this book appears to achieve its objective in presenting a working system for classifying the crystal structures of tetrahedral compounds and its contents represent a mine of information.

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